

WHAT IS CLAIMED IS:

1. An inkjet printing method using a printing head having a plurality of nozzles capable of ejecting ink for
5 printing an image by ejecting ink based on printing data which instructing ejection or non-ejection of ink, wherein
said printing data corresponding to an abnormal nozzle malfunctioning in ink-ejection is added to the printing data corresponding to a neighboring nozzle of the abnormal
10 nozzle.

2. An inkjet printing method as claimed in claim 1, wherein

said plurality of nozzles are aligned next to each
15 other along a predetermined direction; and

when an N-th nozzle of the plurality of nozzles is an abnormal nozzle, the printing data corresponding to the abnormal nozzle is added to at least one of the printing data corresponding to an (N-M) th neighboring nozzle and
20 an (N+M) th neighboring nozzle (where N and M are positive integers) arranged in the neighborhood of the N-th abnormal nozzle.

3. An inkjet printing method as claimed in claim 1,
25 wherein

said plurality of nozzles are aligned next to each other along a predetermined direction; and

when an N-th nozzle of the plurality of nozzles is an abnormal nozzle, the printing data corresponding to the abnormal nozzle is added to at least one of the printing data corresponding to an (N-1) th neighboring nozzle and
5 an (N+1) th neighboring nozzle (where N is a positive integer) arranged in the neighborhood of the N-th abnormal nozzle.

4. An inkjet printing method as claimed in claim 2, wherein

10 a ratio of the printing data corresponding to the abnormal nozzle to be added to the printing data corresponding to the neighboring nozzles is determined based on states of the neighboring nozzles.

15 5. An inkjet printing method as claimed in claim 4, wherein

20 said states of the neighboring nozzles are obtained from a shooting information based on a landing result of ink ejected out of the neighboring nozzle on a printing medium.

6. An inkjet printing method as claimed in claim 5, wherein

25 said shooting information includes at least one of information about the landing position of ink on the printing medium and the diameter of dot formed by ink landed on the printing medium.

7. An inkjet printing method as claimed in claim 1,
wherein,

when the printing data corresponding to the abnormal
5 nozzle is added to that corresponding to the neighboring
nozzle, a printing resolution of the printing head is
improved.

8. An inkjet printing method as claimed in claim 1,
10 wherein

an image is completely printed in a predetermined area
of the printing medium by a single movement of the printing
head relative to the printing medium while ink is being
ejected out of the nozzle of the printing head based on
15 the printing data.

9. An inkjet printing method as claimed in claim 1,
wherein

an image is completely printed in a predetermined area
20 of the printing medium by moving a single movement of a
single printing head relative to the printing medium while
ink is being ejected from nozzle of the single printing
head based on the printing data.

25 10. An inkjet printing method as claimed in claim 1,
wherein

said manner of adding the printing data corresponding

to the abnormal nozzle to that corresponding to the neighboring nozzle is varied depending upon a type of printing medium.

5 11. An inkjet printing method as claimed in claim 1,
further comprising the steps of:

printing a detection pattern on a printing medium by
using the printing head for detecting the state of the nozzle;
and

10 detecting the abnormal nozzle based on the detection
pattern printed on the printing medium.

12. An inkjet printing apparatus for printing an image
by use of a printing head having a plurality of nozzles
15 capable of ejecting ink and by ejecting ink out of the nozzles
based on printing data which instructing ejection or
non-ejection of ink, comprising

compensation means for adding the printing data
corresponding to an abnormal nozzle in ink ejection state
20 to the printing data corresponding to a neighboring nozzle
arranged in the neighborhood of the abnormal nozzle.

13. An inkjet printing apparatus as claimed in claim
25 12, wherein

said plurality of nozzles are aligned next to each
other along a predetermined direction; and

5 said compensation means performs a compensation process in which when an N-th nozzle of the plurality of nozzles is an abnormal nozzle, the printing data corresponding to the abnormal nozzle is added to at least one of the printing data corresponding to an (N-M) th neighboring nozzle and an (N+M) th neighboring nozzle (where N and M are positive integers) arranged in the neighborhood of the N-th abnormal nozzle.

10 14. An inkjet printing apparatus as claimed in claim 12, wherein

 said plurality of nozzles are aligned next to each other along a predetermined direction; and

15 said compensation means performs a compensation process in which when an N-th nozzle of the plurality of nozzles is an abnormal nozzle, the printing data corresponding to the abnormal nozzle is added to at least one of the printing data corresponding to an (N-1) th neighboring nozzle and an (N+1) th neighboring nozzle (where 20 N is a positive integer) arranged in the neighborhood of the N-th abnormal nozzle.

15. An inkjet printing apparatus as claimed in claim 13, wherein

25 said compensation means determines a ratio of the printing data corresponding to the abnormal nozzle to be added to the printing data corresponding to the neighboring

nozzles based on states of the neighboring nozzles.

16. An inkjet printing apparatus as claimed in claim
15, wherein

5 said states of the neighboring nozzles are obtained
from the shooting information of ink ejected out of the
neighboring nozzles and landed on a printing medium.

10 17. An inkjet printing apparatus as claimed in claim
16, wherein

 said shooting information includes at least one of
data about the landing position of ink on the printing medium
and the diameter of dot formed by ink landed on the printing
medium.

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18. An inkjet printing apparatus as claimed in claim
12, further comprising:

20 means for improving a printing resolution of the
printing head when the printing data corresponding to the
abnormal nozzle is added to that corresponding to the
neighboring nozzle.

19. An inkjet printing apparatus as claimed in claim
12, further comprising:

25 means for completely printing an image in a
predetermined area on the printing medium by a single
movement of the printing head relative to the printing medium

while ink is being ejected from nozzles of the printing head based on the printing data.

20. An inkjet printing apparatus as claimed in claim
5 12, further comprising:

means for completely printing an image in a predetermined area on the printing medium by moving a single movement of a single printing head relative to the printing medium while ink is being ejected from nozzles of the single
10 printing head based on the printing data.

21. An inkjet printing apparatus as claimed in claim
12, wherein

said compensation means add the printing data corresponding to the abnormal nozzle to that corresponding to the neighboring nozzle in a different manner depending upon the type of the printing medium.

22. An inkjet printing apparatus as claimed in claim
20 12, further comprising:

control means for printing a detection pattern on a printing medium by using the printing head, for detecting the state of the nozzle, and

detection means for detecting the abnormal nozzle
25 based on the detection pattern printed on the printing medium.